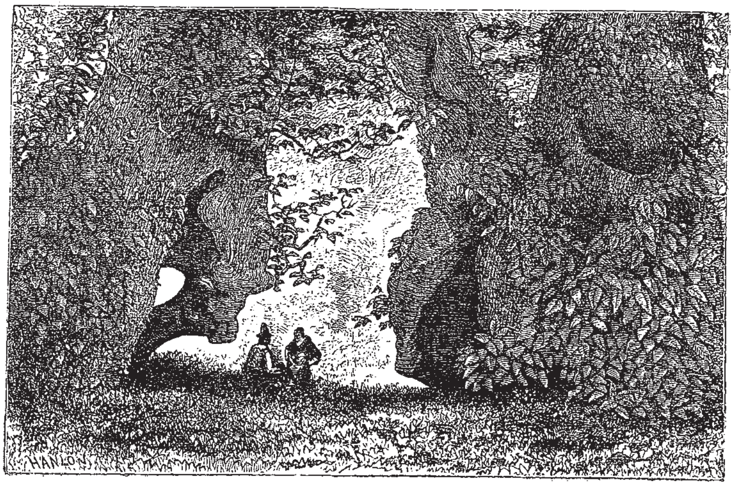
THE CHESTNUT TREE OF MOUNT ETNA

THE traveller in Sicily will recollect the little village of Giarre, about half way between Messina and Catania; and since the opening of the railway between these cities, with a station at no great distance from its principal street. On the sea-side below the town is the shipping port of Riposto, and between Riposto and Giarre lies a fertile plain, rich in olive and vine-yards. Giarre itself has not much to boast of, except perhaps it might do so of the glorious views to be seen from the slight elevation on which it stands. One long principal street, a large plain chapel, a very second-rate inn, and then there is nothing more to be said of the village. It is, however, the nearest town with an inn to the famous giant chestnut tree of Mount Etna, and as such is visited by tourists. This fine old tree grows in the Bosco or woody region close above the town and on the slope of Mount Etna. A narrow, steep road, gradually ascending, leads from Giarre to La Macchia, the broad bed of a river now (in the end of May) rolling down nought but clouds of dust, is passed, and the lava beds formed by the eruptions of 1689 and 1735 are traversed, and at last S. Alfio is reached. This village is about four and a half miles from Giarre, and from it a very fine view of Etna is obtained. The mountain, however, from this side looks low and by no means as imposing as when seen from the sea. A little beyond S. Alfio the road turns to the left still leading upwards; until all of a sudden the giant tree breaks upon the view, the road itself running through its very midst. It stands about 4,000 feet above the sea level, and it requires a good three and a half hours to walk to it from Giarre.

It has been calculated that this tree is about 1,000 years of age. It is a tree, therefore, old enough to have its early history lost in myth; but still it has its story; and this story tells us that long ago a certain Queen of Aragon was passing by this way, when, from the effects of the weather, she and her suite, which consisted of one hundred mounted persons, took shelter under the shadow of its trunk and boughs, and so to this day and from this fact it is known as the Castagno di Cento Cavalli. This story is said to be generally believed, and, at any rate, does not appear to have been much discussed. Not so the tree; and very many opinions may be quoted all more less differing as to its age and size. Some believe, or have believed, that the tree was as large as the story tells us it was, that the interior of the vast trunk has since then decayed away; leaving a number of separate pieces, each large enough to form a big tree, which pieces are covered with bark only on their outer surface. Others assert that there were here several large trees, more or less joined together, and demonstrate on the pieces of these trees still standing the barky layers surrounding the whole of their stems.



THE CHESTNUT TREE OF MOUNT ETNA

Not very long ago there were still four pieces standing, each of them of the dimensions of a very large tree. In the space surrounded by these pieces stood a hut, in which the annual crop of chestnut fruit was stored. One of these trees, or portions of the tree, has since disappeared. The hut has now been removed, and the road, sufficiently wide to allow of a carriage, runs between the remaining pieces and over the ground on which the hut was built. As you approach, one large piece of the tree is to the left-hand side of the road, and two larger pieces are to the right. It is very probable that many of the pieces believed to have belonged to the one original vast stem, were really stems themselves of independent trees, and such would appear to be the case with the large trunk to the left of the present roadway. But there is a strong probability that the two immense pieces to the right of the road were at one time united, and that they form part of the original tree. The annexed woodcut is from a photograph of these pieces. Both of them are deeply hollowed out. The base of the trunk to the right of the woodcut is very much decayed away, and several men could shelter in it; and the portions of the stems seen on looking at the picture are devoid of true bark. If these two portions once formed a single stem, then, indeed, though it might not have thrown a shadow sufficiently large to shade a hundred horsemen, yet it must have been a very giant among all the forest trees. Even now, in its decadence, the three stems are objects of sufficient interest to lead us to ask for them the reader's attention.

E. P. W.

SCIENCE IN PLAIN ENGLISH

II.

IN considering the importance of Technical Education with reference to the practical arts, and the claims of Science as an element of culture, we are led to study the methods of teaching.

It has been the custom in English to borrow the technical terms of Science from the so-called "learned languages," particularly Latin and Greek. To such an extent has this been carried that unless a term bears the marks of such a derivation it is hardly recognised by the public as a technical term.

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The Germans, on the other hand, in teaching science, employ their own language to a large extent, and impose a definite scientific meaning upon common words. It is a remarkable evidence of the formative power of the German language, that it should have been able to produce an imitation of the systematic chemical nomenclature of the French school so complete that it is used in Germany as familiarly as the original system is in France and England. The fact that the most cultivated nation in the world, the Germans, find that they can teach science in their vernacular, deserves the most careful consideration—it seems to furnish at once an argument and an example.

In discussing this question, it is necessary to examine the capabilities of the English language with reference to the purposes of public instruction, but in the first instance we may glance at the development of scientific language in some of the countries of Europe during the last three hundred years.

When the progress of science rendered it necessary to employ new terms in order to express new ideas, two different methods were adopted by different nations. Let us compare the French and English with the German and Dutch method. When, for instance, the French wanted to express in one word the "knowledge of the stars" or the "study of the stars," they borrowed the Greek word *astronomia*, and called it *astronomie*. In like manner the English said *astronomy* but the Germans expressed the meaning of the term in their own language, calling it *Stern-kunde* or "star-knowledge;" similarly the Dutch said *Starre-kunde*, and they have continued using such words to the present day.

In English, then, it has been the custom to take Latin or Greek compounds ready made, although in many instances we might have translated them if we had chosen to do so. If we look to the literal meaning, the original difference between *sphere*, *globe*, and *ball* is that the first is Greek, the second Latin, and the third Saxon. So the Germans call a *hemi-sphere* a "half-ball," and the *globe* upon which we live the "earth-ball."

Now if, in any language, the compound words are, to a great extent, derived from other tongues, such words will be comparatively unintelligible to those who are not conversant with foreign languages. In such a case, the common people will learn the words rather by practice and association than by any exact knowledge of the original meaning; and to the same degree the learned must enjoy a privilege which the illiterate do not possess. Hence there is, in English, a broad distinction between the speech of the general public and the language of science.

Suppose that a working man, in this country, wishes to study Botany, he cannot read one of the ordinary works on that subject, without having his attention distracted by scores of new words which are either Latin or Greek, or else are derived from those languages. Thus he is often disheartened; or, if he succeeds, it is a long time before he overcomes the check which he experienced at the outset, and many a likely student is thus discouraged at the very threshold of his studies.

But the German writers, when they make books for their people, proceed upon a different plan. For if they give the Latin and Greek terms, it is only in brackets, and by way of parenthesis; while in the body of the work they use plain German words, and keep on employing such terms throughout the whole work. Hence, at the first reading, a German youth may go straight on, without paying attention to the Latin terms, and so make himself master of the facts. Afterwards, at a second or third reading, he may study the learned terms, which are repeated in brackets, from time to time, in order to catch the eye of the reader, and thus imprint themselves upon his memory.

For instance, in describing the parts of a flower, the writer does not begin by talking about a "calyx," but speaks of the *cup* (calyx), and calls the leaves of the cup *cup-leaves* (sepals). Similarly, the "corolla" is the *crown*, and its leaves are *crown-leaves* (petals). Thus, when he wishes to tell the learner that a *crown* (corolla) has several leaves, he does not tell him that the "corolla is polypetalous," but that the "crown is many-leaved," or that the "crown-leaves are many."

There is a danger that some of the terms thus employed may not be quite accurate. But the Germans are willing to risk the chance of misapprehension for the sake of making an impression on the mind of the reader, and gaining his attention. If then, half a loaf is better than no bread, it seems more advisable that an unlettered man who wishes to study science, should go through a book which is intelligible, though not absolutely accurate, rather than attempt to read a treatise which is admirably correct, but so full of hard words, that he is tempted at every line to throw down the book in despair.

We have to consider whether such a method can be carried out in English. There can be no doubt that the public would welcome any proposal for the publication of elementary scientific works written in a simple style. Some steps have already been taken in this direction, and scientific writers appear to be cautiously feeling their way. But the plan has not been carried out systematically or boldly, nor has the language of science been fully examined in reference to popular instruction.

Nor are scientific men entirely convinced that the proposed simplification is practicable, or even desirable. Some of them deny that the English language is equal to the task, because we have lost that power of making compound words which confessedly existed in Old English, and which still exists in German. Others contend that even in German the method is characterised by want of precision, and gives rise to confusion; hence they maintain that it is better to frame the scientific terms in words which are not familiar to the common ear, in order to ensure precision and to guard against error.

But in arguing this question two points may be observed. First—That men of high attainments are less averse to the proposed method than men of inferior ability. Secondly—That all are more disposed to see it tried in some other science than in the one which they themselves profess. The grammarian, or the mathematician would not greatly object to a plan for simplifying Botany; "for that," they say, "is a science of hard names." But the botanist replies, "No, you must not touch Botany; suppose you were to try Mathematics." The argument cuts both ways. It is evident that each acknowledges the value of fixed technical terms in his own science, and yet is not unwilling to see a simplification introduced in other branches of study.

The objections urged against the proposed method are of two kinds:—(1) that the system itself is misleading, and the method inaccurate; (2) that even if the plan be practicable in German it is not possible in English.

We shall, in the next article, review these objections in their order.

WM. RUSHTON

NOTES

WE are glad to learn that steps are being taken to bring about such a general application from men of science to the Government for further deep-sea explorations as we referred to some little time ago. This is as it should be. We hear also, that, on the invitation of some of the leaders of science there, Mr. Gwyn Jeffreys will proceed to America in the middle of August, to inspect, in company with Prof. Agassiz, the collections obtained in the American dredgings. Such a proceeding will be of the utmost value to science, and no one is more fitted than Mr. Gwyn Jeffreys to perform such an important work.

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